

Inventor: Nitesh Ratnakar
Serial No.: 10/711,859
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Title: Dual View Endoscope

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) An endoscope, comprising:
a shaft having distal and proximal ends and defining a hollow channel therethrough;
a first lens adjacent the distal end of the insertion tube for receiving a first image in a
forward first direction; and
a catheter receivable in the hollow channel of the shaft for extension and retraction
therethrough; and
a second lens adjacent the distal end of the catheter, the second lens movable with respect to
the first lens so as to receive for receiving a second image in a second direction, the second direction
being at a predetermined angle to the first direction.
2. (Cancelled)
3. (Previously Presented) The endoscope of claim 1, wherein the first and second lenses receive the first and second images simultaneously.
- 4-9. (Cancelled)
10. (Currently Amended) The endoscope of claim 1, further comprising an actuator operatively connected to the catheter rear view module for moving the catheter independent of the shaft rear view module.
11. (Cancelled)

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12. (Previously Presented) The endoscope of claim 1, wherein the second lens is operatively connected to an image processor.

13. (Previously Presented) The endoscope of claim 1, further comprising a display screen for displaying the first and second images

14. (Previously Presented) The endoscope of claim 1, further comprising an eyepiece for viewing the first and second images.

15. (Currently Amended) The endoscope of claim 1, wherein the catheter includes a distal tip and wherein the endoscope further comprising comprises one or more rear illumination bulbs disposed on the distal tip of the catheter for illuminating an area adjacent to the second lens.

16. (Currently Amended) The endoscope of claim 15, wherein the one or more rear illumination bulbs are operatively connected to a power light source.

Claims 17-22 (Cancelled)

23. (Withdrawn) An endoscope comprising more than one instrument channels.

24 (Withdrawn) The instrument channel of claim 23 wherein one or more channels are interconnected.

25. (Withdrawn) The instrument channel of claim 23 wherein each channel is independent of another.

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26. (Withdrawn) The instrument channel of claim 23 wherein there is a valve to control the passage from one channel to another.
27. (Withdrawn) An endoscope comprising more than one air/water channel.
28. (Withdrawn) The air/water channel of claim 27 wherein one or more channels are interconnected.
29. (Withdrawn) The air/water channel of claim 27 wherein each channel is independent of another.
30. (Withdrawn) The air/water channel of claim 28 wherein there is a valve to control the passage from one channel to another.
31. (Withdrawn) An endoscope comprising more than one image lens.
32. (Withdrawn) The image lens of claim 31 wherein it widens the field of vision.
33. (Withdrawn) The endoscope of claim 31, wherein it contains more than one forward image lens.
34. (Withdrawn) The image lens of claim 33, wherein the forward image lens is connected to an image processor.
35. (Withdrawn) The endoscope of claim 31, wherein image from the forward image lens is displayed on a display screen such as a computer monitor.

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36. (Withdrawn) The endoscope of claim 31, wherein image from the forward image lens is viewed through an eyepiece.
37. (Withdrawn) An endoscope comprising more than one illumination bulb.
38. (Withdrawn) The endoscope of claim 37, wherein it contains more than one forward illumination bulb.
39. (Withdrawn) The endoscope of claim 37 where the forward illumination bulb is connected to a light source.
40. (Cancelled)
41. (Currently Amended) The endoscope of claim 1 ~~40~~ wherein the predetermined angle is approximately 180 degrees.
42. (Cancelled)
43. (Currently Amended) The endoscope of claim 40 wherein the catheter includes a distal tip and wherein the endoscope and wherein the actuator includes first and second wires operatively connected to the distal tip of the catheter ~~second image lens~~, wherein tension on the first and second wires controls movement of the second image lens.
- 44-46. (Cancelled)

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47. (Currently Amended) An endoscope system for examination of a hollow body component, comprising:

an endoscope having an outer periphery and a distal end housing a first image lens ~~for~~ the first image lens receiving images in a first direction, the endoscope defining a hollow channel therethrough;

a catheter being received within the channel of the endoscope and having proximate and distal ends; and

a rear view module adjacent the distal end of the catheter ~~outer periphery of the endoscope~~ and including the second image lens, at least of portion of the rear view module movable between a first position and a second position wherein the second image lens receives images in a second direction at an angle to the first direction.

48. (Previously Presented) The endoscope system of claim 47 wherein the angle is approximately 180 degrees.

49. (Previously Presented) The endoscope system of claim 47 further comprising an actuator for controlling movement of the rear view module between the first and second positions.

50. (Previously Presented) The endoscope system of claim 49 wherein the actuator includes first and second wires operatively connected to the second image lens, wherein tension on the first and second wires controls movement of the second image lens.

51-53. (Cancelled)

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54. (Currently Amended) An endoscope, comprising:

a first lens for receiving a first image in a first forward direction;

a shaft for receiving the first lens therein, the shaft defining a hollow channel therethrough;

a second lens for receiving a second image in a second direction, the second direction being at a predetermined angle to the first direction; and

a catheter being received within the channel of the shaft and having proximate and distal ends; and

a rear view module housing the second lens and being operatively connected to the distal end of the catheter ~~shaft for housing the second lens.~~

55. (Previously Presented) The endoscope of claim 54 wherein at least of portion of the rear view module is movable between a first position and a second position wherein the second image lens receives images in the second direction.

56. (Currently Amended) The endoscope of claim 55 further comprising an actuator operatively connected the distal end of the catheter ~~rear view module~~ for controlling movement of the rear view module.

57. (Currently Amended) The endoscope of claim 56 wherein the actuator includes first and second wires operatively connected to the distal end of the catheter ~~second image lens~~, wherein tension on the first and second wires controls movement of the second image lens.

58-60. (Cancelled)

61. (Previously Presented) The endoscope of claim 54 wherein the second lens is operatively connected to an image processor.

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62. (Previously Presented) The endoscope of claim 54 further comprising a display screen operatively connected to the first and second lenses for displaying the first and second images.

63. (Previously Presented) The endoscope of claim 54 further comprising an eyepiece operatively connected to the first and second lenses for viewing the first and second images.

64. (Previously Presented) The endoscope of claim 54 further comprising one or more rear illumination bulbs for illuminating an area adjacent the second lens.

65. (Currently Amended) The endoscope of claim 64 wherein the one or more rear illumination bulbs are operatively connected to a power ~~light~~ source.

66. (Previously Presented) The endoscope of claim 54 wherein the predetermined angle is approximately 180 degrees.

67. (New) The endoscope of claim 1 wherein the actuator includes a bending structure disposed at the distal end of the end of the catheter and wherein the bending structure urges the catheter into the second direction upon exit from the hollow channel of the shaft.